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WOODARD, EMHARDT, MORIARTY, MCNETT & HENRY LLP
111 MONUMENT CIRCLE, SUITE 3700
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EXAMINER

PAJOOHI, TARA S

ART UNIT

PAPER NUMBER

2886

MAIL DATE

DELIVERY MODE

07/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/549,995

Applicant(s)

WILSON ET AL.

Examiner

Tara S. Pajoohi

Art Unit

2886

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 109-145 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 109-145 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/S508)
Paper No(s)/Mail Date 3/21/2008
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Acknowledgement is made to the amendment filed on 3/21/2008.
2. Acknowledgment is made to the cancellation of claims 1-108.
3. Currently, claims 109-145 are pending.

Information Disclosure Statement

4. Acknowledgement is made that the information disclosure statement filed 3/21/2008 has been received and considered by the examiner. If the applicant is aware of any prior art or any other co-pending applications not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.

Claim Rejections - 35 USC § 102

5. Referring to **claims 120, 122 and 133**, it has been held that the recitation that an element is “adapted to” or “capable of” perform/performing a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. In re Hutchinson, 69 USPQ 138.
6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. **Claims 109-112, 115-116, 121, 128-129, 132 and 139-140** are rejected under 35 U.S.C. 102(e) as being anticipated by Moshe (U.S. Pub. No. 2006/0033919).
8. Considering **claims 109, 128 and 139**, Moshe discloses (abstract, col. 2, lines 22-53 and col. 4-11) an apparatus (10) and method for determining one more physical properties (internal properties and characteristics of rod of material) of a rolled smoking article (12) or filter rod, said apparatus comprising:
- a. an imaging device (40) defining a field of view, said imaging device being adapted to image a rolled smoking article (12) or filter rod in said field of view;
 - b. a positioning unit (14) which positions a smoking article or filter rod in said field of view such that the axis of the smoking article or filter rod is substantially orthogonal to the optical axis of the imaging device (see fig. 1);
 - c. an illuminating unit (26) which illuminates said field of view;
 - d. a rotating mechanism (i.e., gas supply (134) pumps gas into the passageway and creates a vortex to rotate the article (12)) which rotates said smoking article or filter rod about its axis in said field of view; and
 - e. a processor (i.e., computer) which processes said image to determine one or more physical properties of a smoking article or filter rod in said field of view;
 - f. wherein said processor repeatedly samples said image as said smoking article or filter rod is rotated by said rotating mechanism to obtain a plurality of image samples (i.e., article (12) is continuously moving and continuously inspected therefore it repeatedly samples the image of the article);
 - g. wherein the processor processes each image sample to obtain a measurement of a diameter of said rolled smoking article or filter rod in each image sample (para. 125); and

- h. wherein the processor uses said measurements to obtain one or more physical properties of said rolled smoking article or filter rod selected from the mean diameter, ovality, circumference, roundness and shape of said rolled smoking article or filter rod (i.e., circumferential area, magnitude of the average diameter, etc., para. 125).
9. Considering **claims 110 and 111**, Moshe discloses (para. 55) the imaging device forms a digital image of the smoke article or filter rod and the processor processes the digital image electronically (i.e., digital operations, para. 55).
10. Considering **claims 112, 129 and 140**, Moshe discloses (para. 114) illuminating (70) with diffuse light onto the field of view.
11. Considering **claim 115**, Moshe discloses (para. 114) the illuminating unit (26) comprises a backlight (70) which backlights a smoking article (12) positioned in the field of view.
12. Considering **claim 116**, Moshe discloses (para. 117) the backlight comprises an infra-red light. (i.e., infra-red illumination).
13. Considering **claim 121 and 132**, Moshe discloses (para. 125) determining the diameter of the smoking article at two or more axially spaced locations of the rolled smoking article (i.e., the average diameter therefore two or more diameters were determined in order to obtain an average diameter).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. **Claims 113, 114, 124-127, 134-138, 141 and 142** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moshe (U.S. Pub. No. 2006/0033919)** in view of **Heitmann et al. (U.S. Patent No. 4,645,921)**.

16. Considering **claims 113, 114, 141 and 142**, Moshe discloses one or more illuminating devices but fails to specifically disclose the illuminating unit comprises one or more sidelights which are positioned laterally and on opposite sides of said optical axis.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses (abstract) and shows in figure 1, illuminating on opposite sides of a plane that is normal to the moving rod.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to illuminate the smoking article on opposite sides as taught by Heitmann in the method of Mullins since it would provide for a more complete and radial illumination of the cigarette.

17. Considering **claim 124, 134 and 135**, Moshe discloses (para. 148) a process control and data analysis unit (120) which controls the process of moving the rolled smoking material (12) and/or for controlling the downstream processing of the moving rolled smoking article (120). Moshe also discloses the output signal from inspecting the moving rolled smoking material (12) is stored in the stored detection unit (106) and output via (106') to the process control and data analysis unit (120).

Moshe fails to specifically disclose detecting the position of a shadow cast by a longitudinal seam of an outer layer of the rolled smoking article, wherein said outer layer being wrapped circumferentially around the rolled smoking article to overlap itself thereby to form the same and to determine the direction of the wrapping of the outer layer relative to the direction of the rolled smoking article.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses illuminating the rolled smoking article with multiple illumination sources at different angles and measuring various properties of the rolled smoking article, including, but not limited to, open seams of the wrapper, holes in the wrapper, spots of adhesive, improperly applied imprints, absence of filter mouthpiece in the filter cigarettes and many others.

Even though Heitmann fails to specifically disclose determining the direction of the wrapping of the outer layer relative to the direction of the rolled smoking article, the selection of any of these known variations in determining one or more physical properties of a rolled smoking article would be well within the level of ordinary skill in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to detect the position of the shadow cast along the seam of the outer layer of the rolled smoking article as well as the direction of the wrapping of the outer layer relative to the direction of the rolled smoking article, since the selection of any of these known equivalents of physical properties to inspect of a rolled smoking material would be within the level of ordinary skill in the art. It would have been further obvious since the more knowledge as to the physical properties of the rolled smoking article, due to the intended use of the apparatus, would provide for a more consistent rolled smoking article.

18. Considering **claim 125, 127, 136 and 138**, Moshe discloses the database (120) stores a nominal width (i.e., diameter) of the rolled smoking article (12) along the entire field of view as the rolled smoking article travels through the field of view which meets the limitation of two laterally spaced regions of interest.

Moshe fails to specifically disclose the two laterally spaced regions of interest are based on the nominal width, wherein each of the regions of interest encompass all likely positions of the

shadow depending on the direction of the wrapping of the outer layer and controls the processor to detect the presence of the shadow only in one region of interest.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses illuminating the rolled smoking article with multiple illumination sources at different angles and measuring various properties of the rolled smoking article, including, but not limited to, open seams of the wrapper, holes in the wrapper, spots of adhesive, improperly applied imprints, absence of filter mouthpiece in the filter cigarettes and many others.

Even though Heitmann fails to specifically disclose determining the direction of the wrapping of the outer layer relative to the direction of the rolled smoking article and detect the presence of the shadow in the one region of interest, the selection of any of these known variations in determining one or more physical properties of a rolled smoking article would be well within the level of ordinary skill in the art.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to determine the direction of the wrapping of the outer layer relative to the direction of the rolled smoking article and detect the presence of the shadow in the one region of interest, since the selection of any of these known equivalents of physical properties to inspect of a rolled smoking material would be within the level of ordinary skill in the art. It would have been further obvious since the more knowledge as to the physical properties of the rolled smoking article, due to the intended use of the apparatus, would provide for a more consistent rolled smoking article.

19. Considering **claims 126 and 137**, Moshe discloses one or more illuminating devices but fails to disclose the illuminating unit comprises one or more sidelights which are positioned laterally and on opposite sides of said optical axis.

In the same field of endeavor, an inspection system of a rod shaped material (i.e., filter rod), Heitmann discloses (abstract) and shows in figure 1, illuminating on opposite sides of a plane that is normal to the moving rod (i.e., positioned obliquely relative to the optical axis).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to illuminate the smoking article on opposite sides as taught by Heitmann in the method of Mullins since it would provide for a more complete and radial illumination of the cigarette.

20. **Claims 117, 119, 120 and 130** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moshe (U.S. Pub. No. 2006/0033919)** in view of **Mullins et al. (U.S. Patent No. 6,075,882)**.
21. Considering **claim 117**, Moshe fails to specifically disclose the imaging device is a digital camera.

In the same field of endeavor, a system and method for optically inspecting cigarettes, Mullins discloses (abstract) imaging with a video camera.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to image the rolled smoking device with a vide camera, since a video camera will provide three-dimensional continuous analysis of the rolled smoking device as it is rotated.

22. Considering **claim 119**, Moshe fails to specifically disclose the processor locates two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

In the same field of endeavor, a system and method for optically inspecting cigarettes, Mullins discloses (col. 2, lines 28-31) the processor locates two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the processor to calculate the distance between two opposite edges of the rolled

smoking article as disclosed by Mullins in the system of Moshe, since Moshe discloses calculating various properties of a rolled smoking article and therefore calculating the distance between two opposite edges of the cigarette is merely a matter of intended use and would thus be an obvious matter of design choice.

23. Considering **claim 120**, Moshe discloses and shows in figure 1, a control unit to control the processor and a database (i.e., process control and data analysis unit (120)).

24. Considering **claim 130**, Moshe discloses (para. 125) determining the diameter of the smoking article at two or more axially spaced locations of the rolled smoking article (i.e., the average diameter therefore two or more diameters were determined in order to obtain an average diameter).

Moshe fails to specifically disclose locating two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

In the same field of endeavor, a system and method for optically inspecting cigarettes, Mullins discloses (col. 2, lines 28-31) the processor locates two opposite edges of the rolled smoking article in profile and to calculate the distance between said opposite edges.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the processor to calculate the distance between two opposite edges of the rolled smoking article as disclosed by Mullins in the system of Moshe, since Moshe discloses calculating various properties of a rolled smoking article and therefore calculating the distance between two opposite edges of the cigarette is merely a matter of intended use and would thus be an obvious matter of design choice.

25. **Claims 118, 123 and 143-145** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moshe (U.S. Pub. No. 2006/0033919)** in view of **Tao (U.S. Patent No. 5,732,147)**.

26. Considering **claims 118, 123 and 143-145**, Moshe fails to specifically disclose the rotating mechanism comprises two juxtaposed rollers, which rollers are positioned side-by side so as to define a groove therebetween which groove receives said smoking article or filter rod and a rotating unit which rotates one or both of said rollers thereby to cause the smoking article or filter rod to rotate through a complete rotation.

Tao discloses and shows in figures 1 and 6, rollers (i.e., a plurality of rods on the conveyor (20)) which are positioned side-by-side so as to define a groove wherein the groove receives the article (70) and a rotating unit (80) rotates the rollers to cause the article to rotate through a complete rotation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide two side-by-side rollers to rotate the rolled smoking device as taught by Tao in the system of Moshe, since Tao discloses (col. 1) that it provides for a high speed method for processing the images of an article.

27. **Claims 122 and 133** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Moshe (U.S. Pub. No. 2006/0033919)** in view of **Ludlow (U.S. Patent No. 6,169,600)**.

28. Considering **claims 122 and 133**, Moshe fails to disclose a processor is adapted to detect one or more circumferential markers on a rolled smoking article or filter rod which are capable of indicating its rotational orientation.

Ludlow shows in figure 3A circumferential markers on a rolled smoking article which are capable of indicating is rotational orientation.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide markers on the smoking or filter rod, as taught by Ludlow in the method of

Moshe since it would allow for a reference point when determining the diameter of a smoking rod as it is being rotated.

Response to Arguments

29. Applicant's arguments with respect to claims 109-145 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

30. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tara S. Pajoohi whose telephone number is (571)272-9785. The examiner can normally be reached on Monday - Thursday 9:00 a.m. - 5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tarifur R. Chowdhury can be reached on 571-272-2287. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tara S. Pajoohi
Patent Examiner

TSP

/TARIFUR R CHOWDHURY/
Supervisory Patent Examiner, Art Unit 2886